KWAZULU-NATAL

AGRI UPdate

Information for the farmer from the *Directorate of Technology Development and Training*

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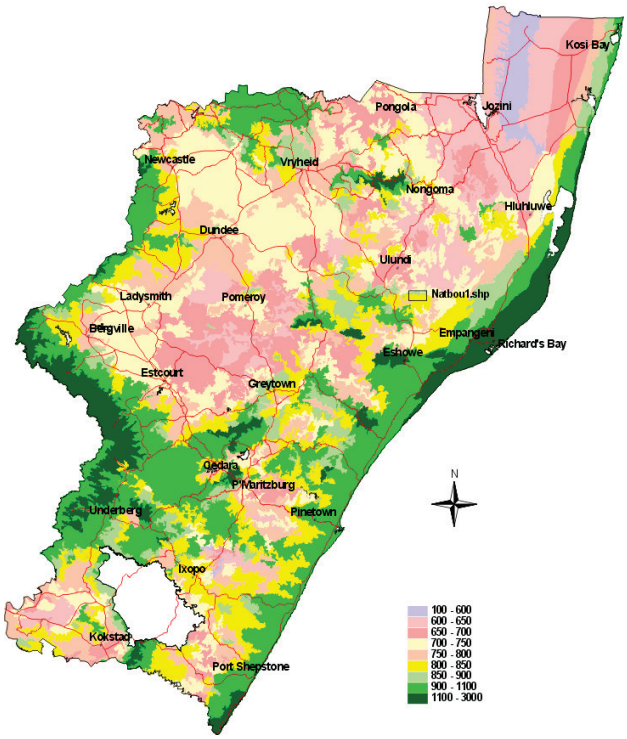
THE BIORESOURCE GROUPS OF KZN

Kelson Camp and Duncan Liengme

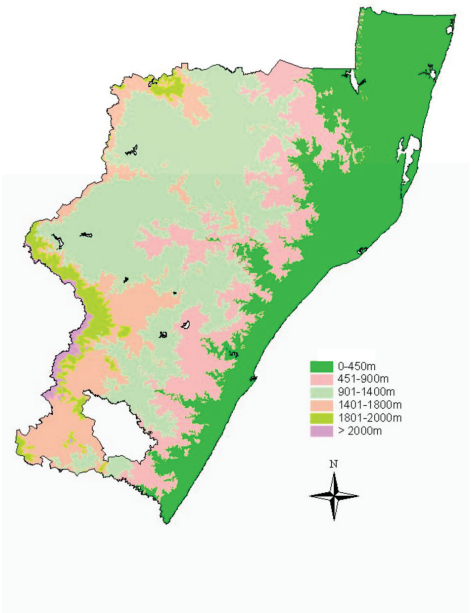
DIVERSITY OF NATURAL RESOURCES

The diversity of the natural resources of the Province of KwaZulu-Natal is enormous. The altitude varies from sea level to over 3 000 m, effecting a considerable range in temperature, while the topography changes from the undulating coastal plains of Maputoland to the rugged, broken terrain of the Valley of a Thousand Hills and the precipitous mountains of the Drakensberg. The rainfall also varies considerably, from approximately 500 to over 2000 mm per annum. The geological formations of the province run roughly north-south across an eastern-sloping terrain, while the river systems run west to east, cutting through the geological layers and resulting in deeply incised valleys. Coupled with the changes in topography, climate and geology, one finds a wide variation in soil patterns. Deep sands are found along the northern coastal belt, young weathering soils in the steep valleys, while well-drained soils are a feature of the midlands and the highland sourveld areas. Poorly drained and duplex soils are common in upland positions of areas receiving less than 750 mm of rainfall per annum.

RAINFALL DISTRIBUTION IN KWAZULU-NATAL



ALTITUDE RANGES OF KWAZULU-NATAL



This variation in topography, climate and soils results in a wide variety of vegetation patterns. Bushveld is found in the low-lying hot and dry areas of northern KwaZulu-Natal and in most of the river systems. In the high rainfall areas of the coastal belt, the midlands mistbelt, highland sourveld and the mountains of the Drakensberg, different indigenous forest types are found in areas protected from fires. In the northern plains of the Province, tall grassveld is characteristic, while in the cold highland areas the grassland is typically shorter.

The great diversity in the natural resources offers widely varying enterprise opportunities and variations in potential levels of production throughout the Province. The Bioresource Unit (BRU) project was developed to assist in the challenge of providing information for sound, ecologically based development planning for agriculture and other land uses.

BIORESOURCE GROUPS (BRG)

BRGs have been grouped into ecological units based primarily on climate and vegetation. A BRG, therefore, consists of a single vegetation type controlled by the interplay of biotic factors such as soil and altitude. A BRG is formed by one or more BRU, each of the same vegetation type and related to one another in terms of climate and broad soil association patterns. The BRG is used for extensive planning and veld management norms are defined for each BRG. Although the intention was to contain one vegetation type within the boundary of a BRG, there often occur areas too small to be mapped separately that appear to be more representative of an adjacent BRG. In such cases the norms for the adjacent BRG are to be used. There are 23 BRGs in KZN described in inventories contained in Cedara Reports. Each one will be summarised in subsequent Agri Updates.

BRG 10 Montane

BRG 5 Moist Midlands Mistbelt

BRG INVENTORY INFORMATION

The following is an example of the kind of information that can be obtained from the inventory of a BRG.

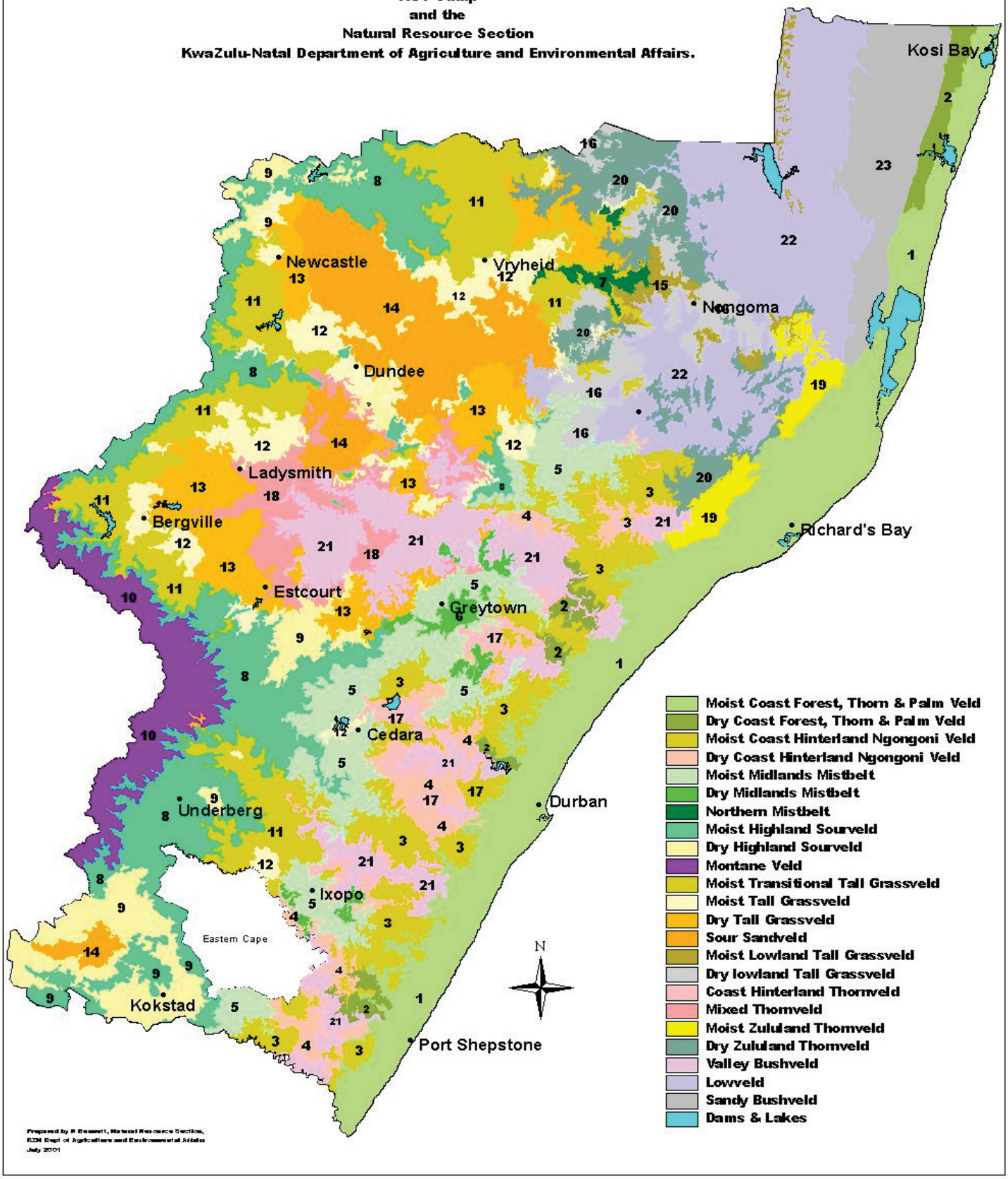
1. Locality and description
2. BRUs included in the BRG
3. Total area (ha)
4. Arable area (ha)
5. Area of high potential soils (ha and %)
6. Climate
7. Vegetation
8. Dominant ecotopes (code, area and %)
9. Water resources
10. Land use and potential

BRG 8 Moist Highland Sourveld

BRG 16 Dry Lowland Tall Grassveld

BIORESOURCE GROUPS OF KWAZULU-NATAL

by
KGT Camp
and the
Natural Resource Section
KwaZulu-Natal Department of Agriculture and Environmental Affairs.



Prepared by R Bezuidenhout, Natural Resource Section,
KZN Dept of Agriculture and Environmental Affairs
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BRG 20 Dry Zululand Thornveld

BRG 21 Valley Bushveld

BRG 22 Lowveld

BIORESOURCE UNITS (BRU)

This is a demarcated area in which the environmental conditions such as soil, vegetation, climate and to a lesser degree, terrain form are sufficiently similar to permit uniform recommendations of land use and farm practices to be made. Also, to assess the magnitude of crop yields that can be achieved, to provide a framework in which an adaptive research programme can be carried out, and to enable land users to make informed decisions.

The uniformity of climate and soil pattern within a BRU should be such that the type of farming enterprise, and the productivity and management techniques required can be clearly defined. The potential benefits for agriculture are:

- regional planning - areas can be evaluated in terms of type and levels of production.
- it is possible to determine where a particular crop can be grown and what it can yield.
- advisers will be assisted in providing farmers with reliable information relevant to their specific resource situations.
- research priorities can be identified from the lack of information in certain BRUs resulting in unsatisfactory production determinations.

There are 590 BRUs mapped and described for KwaZulu-Natal. Each BRU is described in terms of climate, vegetation, soil patterns, the crops that can be grown there and the level of production that can be achieved.

FURTHER INFORMATION

For further information contact the Natural Resources Section (Cedara) of the Department of Agriculture and Environmental Affairs, on 033 - 3559387 (tel) or 033- 3559401 (fax)